CLAIMS

What is claimed is:

1 1. A method, including:

2   separating, in a frequency domain, a combined plurality P of asynchronous

3 data streams received at substantially a same time into a separated plurality of

4 data streams.

1 2. The method of claim 1, further including:

2   converting the combined plurality P of asynchronous data streams from a

3 time domain into the frequency domain prior to the separating.

1 3. The method of claim 1, further including:

2   receiving, at substantially the same time, the combined plurality P of

3 asynchronous data streams at a plurality Q of antennas.

1 4. The method of claim 1, further including:

2   separating the combined plurality P of asynchronous data streams into the

3 separated plurality of data streams in the frequency domain using a frequency

4 spatial demapper.

1 5. The method of claim 1, wherein the separated plurality of data streams

2   correspond directly to a number of wireless channels.

1 6. The method of claim 1, wherein at least one of the separated plurality of data

2   streams is formatted according to one of an Institute of Electrical and

3   Electronics Engineers 802.11 standard and an Institute of Electrical and

4   Electronics Engineers 802.16 standard.

1   7. The method of claim 1, further including:

2   synchronizing at least one of the separated plurality of data streams in the

3   time domain.

1   8. An article including a machine-accessible medium having associated

2   information, wherein the information, when accessed, results in a machine

3   performing:

4   separating, in a frequency domain, a combined plurality P of asynchronous

5   data streams received at substantially a same time into a separated plurality of

6   data streams.

1   9. The article of claim 8, wherein the separating is performed by a wireless

2   access point.

1   10. The article of claim 8, wherein the information, when accessed, results in the

2   machine performing:

3   computing a frequency response for a number of channels corresponding to

4   the plurality P of asynchronous data streams.

1   11. The article of claim 8, wherein the information, when accessed, results in the

2   machine performing:

3   converting the separated plurality of data streams in the frequency domain

4   into a separated plurality of data streams in the time domain.

1   12. The article of claim 8, wherein the information, when accessed, results in the

2   machine performing:

3   synchronizing at least one of the separated plurality of data streams after

4   detecting a presence of a short preamble.

1   13. The article of claim 12, wherein the information, when accessed, results in

2   the machine performing:

3   estimating a coarse frequency offset.

1   14. An apparatus, including:

2   a module to separate, in a frequency domain, a combined plurality P of

3   asynchronous data streams received at substantially a same time into a separated

4   plurality of data streams.

1   15. The apparatus of claim 14, wherein the module to separate further includes:

2   a spatial demultiplexer to provide the separated plurality of data streams.

1   16. The apparatus of claim 14, wherein the module to separate further includes:

2   a module to perform a fast Fourier transform on the combined plurality P of

3   asynchronous data streams; and

4   a module to perform an inverse fast Fourier transform on at least one of the

5   separated plurality of data streams.

1   17. The apparatus of claim 14, further including:

2   a synchronization module to receive at least one of the separated plurality of

3   data streams after processing by a module capable of performing an inverse fast

4   Fourier transform.

1   18. The apparatus of claim 14, wherein at least one of the separated plurality of

2   data streams is formatted according to one of an Institute of Electrical and

3   Electronics Engineers 802.11 standard and an Institute of Electrical and

4   Electronics Engineers 802.16 standard.

1   19. An apparatus, including:

2   a module to perform a fast Fourier transform on a combined plurality P of

3   asynchronous data streams;

4   a spatial demultiplexer to provide a separated plurality of data streams

5   associated with the combined plurality P of asynchronous data streams; and

6   a module to perform an inverse fast Fourier transform on at least one of the

7   separated plurality of data streams so as to separate, in a frequency domain, the

8   combined plurality P of asynchronous data streams received at substantially a

9   same time into the separated plurality of data streams.

1   20. The apparatus of claim 19, wherein at least some of the separated plurality of

2   data streams include a plurality of orthogonal frequency division multiplexed

3   symbols.

1   21. The apparatus of claim 19, wherein a frequency offset associated with a first

2   data stream included in the separated plurality of data streams is different than a

3   frequency offset associated with a second data stream included in the plurality of

4   separated data streams.

1   22. A system, including:

2   a module to separate, in a frequency domain, a combined plurality P of

3   asynchronous data streams received at substantially a same time into a separated

4   plurality of data streams; and

5   a plurality Q of antennas to receive the combined plurality P of

6   asynchronous data streams.

1   23. The system of claim 22, wherein the plurality Q of antennas form a portion

2   of a multiple-input, multiple-output (MIMO) system.

1 24. The system of claim 22, further including:

2   a wireless access point coupled to the plurality Q of antennas.

1 25. The system of claim 24, wherein the wireless access point is to train at least

2 one channel for at least some of a plurality of P users associated with the

3 combined plurality P of asynchronous data streams.

1 26. The system of claim 22, further including:

2   a processor to form a Q x P channel matrix.